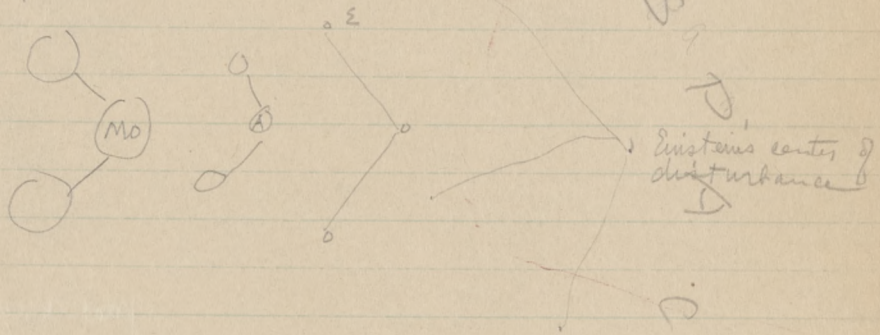
SPACE - TIME

SPACE - TIME

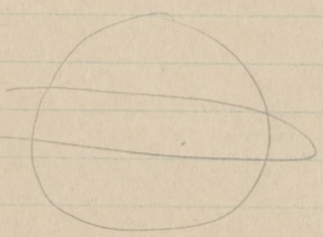
forces in space - time
dimensions + concept of motion
rest + motion — are they the same?

1 all motion is relative
2 velocity of light is independent of the motion / of its source —

M



curved space



// lines meet

matter –

naive conception – solid – heavy – hard – inert – indestructible – impenetrable – colored & surfaced –

useful even to the physicist for everyday

or

rigorously –

mass is a co-efficient which it is convenient to introduce into calculations – Poincaré

gravitation

instead of Newton's hypothetical force – let us assume that the field of time & space traversed by a moving body is altered if there is another body in the vicinity – gravitation is not a force but a distortion of space and time in the presence of matter (energy-mass)

Sunshine falls on the earth in 10 ¼ a force of 160 tons

consult Ouspensky

past + future are alike to the physicist
differing only in direction -
but to the living person they are different
(consider Krishnas eternal present)

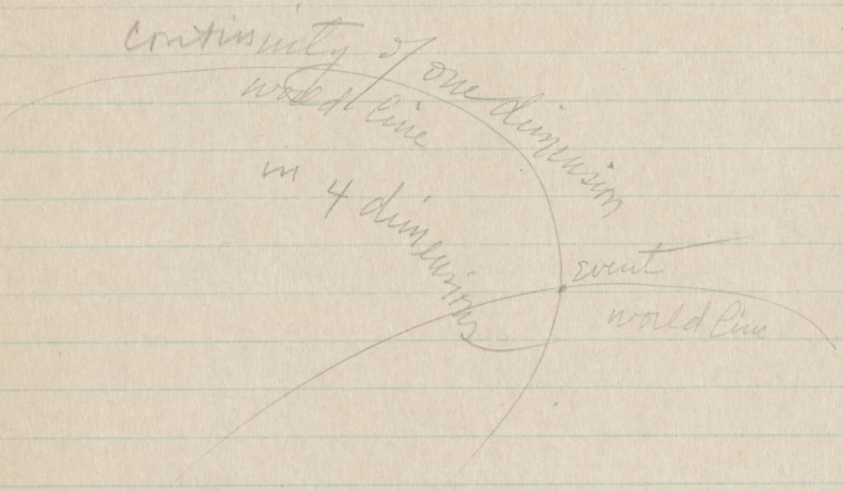
trace all humor back to fundamental
absurdity of making a man act
mechanically.

in the temporal + spatial + material
world reality requires
that the 4 dimensions hang together -
but at infinite distance from all
matter the combination would be
dissolved into 3 + 1 - change is
impossible

straight lines seem as really great circles
or parts of them.

st. lines in astronomical space
may have an imperceptible curvature
in the 4th dimension -

a material point is a line in the 4th dimension.



duration as felt by an individual living through it

physical time as employed in calculation is a mere convention & virtually a 4th dimension of space.

a fine needle - a slow fine bite
a

Bitten Textures:
or pure

Strong nitric (over $\frac{1}{2}$ solution)
will eat fast in larger circles on the
unprotected plate. A violent
dangerous fume is given off. Best
to do out doors - but be careful a
breeze does not disturb the gas
bubbles thus altering the pattern.
$\frac{1}{2}$ nitric or less eats a
smaller pattern more slowly. It
is important to know just
how much one will allow the
previously bitten lines to be
altered. The use of ambiguous
spatial effects.

1 part nitric to 2 parts water - in 9 hrs.
will reduce a plate about $\frac{1}{2}$ its
original thickness.

Rembrandt Landscape -

a fine needle - a slower mordant -
a narrow deep line -

preserve white of the paper in large areas contrasted with more closely worked parts - Even in these, however, the line is kept open. =

Some way of combining pale + dark lines -

sets of lines, contours lost in the light - strengthened in the shadow

heavy line defines belly of drinking cow - pale lines of an hoek -

Sometimes sets of lines come against an edge of light area to form a contour -

Ruysdael - pricking - ⅓ fine nervous tonal masses -

pale brown -

Soya - self-portrait head -

very fine aqua -

1 tone - excessively fine dust - pale burnt umber (and black) -

one tone overall -
the face + the left as white - the darks obtained solely by the etched lines -
3 basic tones
very little contour -
hat entirely etched in
sets of lines - fringed edge
no contour -

printing in white on black paper (D#)

test paper 1-6- firm + rich-
a few watsleaf 1-4

The problems involved are dominated by achieving a proper inke- a sullied chemical tone keeps pulling off the copper surface dirtying the inke. To achieve brilliance in the inke + pure whiteness- the following suggestions should be considered.

The inking steel should be perfectly clean when the rag rests. The rag surface should be shifted frequently. The jigger should be covered with a piece of clean tissue pasted down to prevent picking up old inke & dirt inke which the wood is impregnated.

The plate should be engraved with deep lines - etched & engraved (two soft processes-) to hold the inke in clear embossed areas.

The plate should be inked cooler than ordinary- + the

wiping should be fast with a minimum of strokes-

The hand wipe should be done with a perfectly clean hand - cleaned on chalk & then on cl. cotton rag - & the strokes should be broad & swift - polishing the plate & cleaning the hand frequently -
retouching - if any should be done cool & cold -
& the ink - even for burin be fairly stiff - possibly even almost all medium oil - & a little varn - the ink might be warmed with yellow - orange - rather than cooled with green to offset the bluing of the ink on the copper - & finally the white least affected should be chosen - with the exception of lead, which is a bad thing to wipe with the hands - because of scratches & poison -

note on printing deeply bitten fine aquatint.

Since the receptacles will hold a great deal of ink one does not need to worry about intense blackness- wiping with the rag alone will bring about an overdone smeared effect of retroussage- so that it is advisable to wipe the plate at the finish - quite cold- hard + fast with the clean hand- possibly dried on the chalk + then cleaned on a clean cotton rag- then a brilliant intense effect will be procured- with the strokes of the hand are to be straight or curved must be decided - the blacks will be liquid enough, and will not give a forced effect.

Rembrandt
f. 1633

Engraving is a constructive art. It is this (Martindale) construction that is a key to all engraving values – it determines type & value – use a tipped plank with sand bag & tracing paper screen.

Line engravings are nearly always printed in a cold black inks

In black & white there is a certain tone close to the "half-tone" it is most difficult to deal with, & has to be modified one way or the other. If allowed to occur too much in a plate (chiefly mezzotint) it creates a feeling of weakness & poverty. It is called the mousey tone. A clever engraver will avoid it as hard as he can, & break it up as much as possible.

To obtain brilliance you would expect that pure whites & intense blacks close together would produce the effect. But they don't. Pure white or intense blacks against a fairly strong grey is the thing to aim for – Sharply separated.

Brilliance is to be aimed for and the purest style of the fine line - clear and open -

No highlight on a secondary will attract the eye as quickly as that on the primary subject.

The high light on the subject absolute is the key to the whole plate.

texture must be subservient to tone that is very important -

a slight line between 2 similar tones may separate them.

texture is the interruption of a plain surface of no character by a higher & lower tone of varying forms & sizes to suggest a material & to a certain extent - color.

Shadows must be broad - yet transparent - one has to fight against narrowness & smallness.

Etching - The fewest lines to suggest the greatest amount.

Beware of raw acid or a newly mixed bath. It bites irregularly & in pits.
place a bit of copper in the nitric bath, & let it turn green -
When it is poured back in the bottle add a little neat acid to make up for the weakening by use.

The less scraping & burnishing done on an etching - the better.

mark your handle at the point where the burnt comes, so that if you drop your point for any reason you will handle it exactly the same when you commence again.

bite the coarse lines, reground & draw & bite the fine ones - (if they must be among the coarse ones)

regrounding - rub wax ball generously over surface - filling lines to the very top edge - rub it well in with a bit of worn leather. Then lay another ground by dabbing -

The sheen of the copper will make your work look closer together than it really is - Err on the close side.

Drypoint

(exposed)

$\frac{1}{8}$" ? fine needle fitted into a handle makes a fine line - most needle showing has too much spring -

Aquatint engraving

Unless the plate is finally polished with a dry powder - whitish scratch marks are bound to appear. Do not use water with the powder.

in alcohol + resin - aqua the shape of the grain can be altered by the angle at which the plate is left to dry - If the reticulation is will be detected by the flow downwards.

Dust is a nuisance, for in drying every speck collects a ring of resin - unreticulated. Draughts are bad.

burnt coke + sugar = touching stuff for intricate darks - + thin etching wax flowed on. In weak acid the wax + touching stuff left -

dust with separate filters. tip in bath
heat on copper plate or paint with weak acid
Tall aquatint box — shot

The brush + weak acid can do a great deal to avoid varnish stops. Do not work it up too much with scraping + burnishing as the quality is easily spoilt - Aqua is essentially at its best in broad tones.

The inherent beauty of the method will be found to be in the variation of tones in a pretty limited scale; secured by stopping out, or flooding the acid gradually.

Coarse grounds may be laid over fine ones — Resin dust must not leave spaces between grains to large to be useful - the smooth + wide spaces do not retain

* Coarse over fine. rule / fine lightly bitten then coarse heavily bitten
Fumsden - for relieving
* results / But Hayter says fine + closer ground for relieving

The weaker the alcohol solution the finer the grain. Hayter - finer ground for relieving
Fumsden - coarser " " "
For variety of texture bite fine light then coarse over it heavy
Aqua is cold in effect compared to mezzo.

The edge of the stopping out shows under the microscope as a dark edge caused by the acid plunging.

---

method.

Sometimes 2 or 3 different degrees of resin coarse to fine - a fine ground in a particular place & bite lightly. Then clean off the plate & lay a coarse ground over it. Sometimes just successive bitings do not give enough variety.

Chalk the back of the sketch & go over it lightly with pencil. The chalk -

Aqua

The taller the aquatint box - the finer the grain

Damar - powdered - Eimer + Amend.

5 lbs. I shot in box to keep the dust from clotting

Shogun - place between really wet blotters + let absorb for 2 or 3 days

wet hard paper in a bath - 15 min. Hot water ½ - place between blotters + let stand for immediate use -

a stack of wet blotters under the heavy watts prints - do not have the heavy wove paper or the lines too wet - or the water will roll ahead of the roller + the lines will be mashed + the ink spread + the appearance sooty.

To throw the blankets - fold back top 3 - Thumb under last one + pull it out slip between fingers toward me - This will send them all over -

a stiff brush for the paper

a piece of blanket at the clean the hand

Be vacant / Blotter in the water

make steel burnishers from rat-tail files - polish with crocus powder or iron oxide (jewellers supply) with oil in a wooden groove across grain - polish each time you use - softer than agate which will scratch -

polish plates with rouge

at. 17- smooth the burr down on an engraved plate completely scraper - sharp & dull edges marked - print 2 proofs & work on one with pencil etc.

70° F. 13° Perchloride

1 – 30 sec-

2 + 1 min

3 + 4 min -8

4 + 18 min

---

plate warm. 75°

5

30° Perchl. + 8 -

45°

6

- Paris by eye- 7 values

7. incl. white

3+ for jet.

(possibility of dusting first - very fine grain - (liquid ground?))

liftground aqua

horse

draw with fine brush or flexible pen) -
dust varnish
lift

bite - remove

paint tone with brush
varnish - lift dust -
stop out white scribbles in aqua -

pen - very rapid -
combined with brush -
deeply bitten flecks -
white scratches stopped out
in the black background
certain light tones may
be sketched in first &
lightly bitten or they
may have been scraped
in replaced with the
roulette. or the bitings
scraped down to
2 or 3 bitings -

or areas first & then darker lines

dust first
draw darks
lift
bite
~~draw lighter lines~~ clean
dust etc

eagle -
large plate about 10 by 12.
either drawn on a resin ground
or drawn & then dusted -
very fine grain (liquid aqua?)
draws with a brush very freely -
leaving white areas -
drawing varied from area to area
a flexible pen or point used to
scratch delicate markings in
white ring -

pelican technique

varnish - lift -
bite with stopping out
or repaint - varnish -
lift & bite

Martini Fabiani
Éditeur à Paris -

fine grain blacks on red copper —— 25 min - 30° perchl - 75° F. 30 or 4 min - full strength - at least ½ hr biting for full blacks 43°

lines are easily blown if + do not interfere with the action of the acid -

* fine grain should be a fairly heavy deposit of dust otherwise it bites out into shallow crevices -

6 stages using Smillies Bath.

1	Ex. highlt. stopped -	no biting.
2	toned "	2 minutes
3	light grey -	5 min (3 more)
4	dark grey -	10 min (5 more)
5	light blacks	30 min (20 more)
6	deep blacks	45 min (30 more)

fine grain coating.

---

a preliminary drawing in litho or cameo. transferred the outline to tracing. traced on the grounded plate with carbon paper. (the copper was first etched with most of the outline.

silk bag with resin powder

50% nitric.

15 sec.
30 sec.
75 sec.
2 3/4 min.

up to about 10 or 11 minutes

6 min.
+ deep blacks
watch for the ground breaking.

Between each bath the masses are manipulated with dilute acid - treating it as a water - color - & stopping out accordingly - Instead of a brush - a piece of rolled heavy wrapping paper is used - one used for acid, the other for pure water. 1 grounding & many groundings with the same method each time.

plate etched with 50% Nitric -

cleaned & placed in resin box

twice for 1 min. each.

stopped out highlights -

25% nitric for 10 sec.
rinsed & dried -

stop out
10 more sec. r & d.

stop out. 20 min.
r. & d.

stop out.

graded bite dip method
in step - total acid
time = 2 min to 70 sec -

that is 2 minutes of darkest area graded towards a light light of 70 seconds - rinsed & dried.

---

colors - if dark red color is wanted area must be deeply bitten with fine grain -

light bite or too coarse may print pink -

the same applies to orange. brown & tan etc. Biting must be continued further than for black & white, & in general a fine grain texture employed where intense colors are desired.

via coarse textured aquatint tones left by the ink on the surface area may give the desired effect - if not too streaky a grainless - colored ink left on a non-aquatinted area

often gives a smudgy appearance if it adheres at all; it is better to wipe the plate clean & pull the impression on colored paper. This can be effective (though not true color etching) if the proper combination of ink & paper is used for the particular subject & the composition.

single impression method

A. first apply a neutral color over the whole plate & wipe dry. Then with separate dabbers. The diff. colors are put on their respective places successively after wiping — or at once — & then wiped carefully over the cold plate so that blending is kept at a minimum. The plate is then warmed & printed.

B. Superimposed impressions -

Many a rejected line etching & drypoint has ultimately been changed into a fine aquatint.

Backs of old plates are good.
See A. B. Davies -

Misses - textures - tones -

Soap - water & a stiff brush
vinegar & salt.
Burs removed -
Emery papers, scrapers, burnishers etc -
polish

a clean print is taken
What is left on the plate -
studied from the painter's
angle - the print is
worked up in W.C. & crayon.

Art of Aquatint - B. F. Morrow -
Putnam. N.y. 1935

mixed methods require great skill -
They should be harmoniously blended.

aquatint used to reproduce watercolors.

Biblio -

Aquatint Engraving
by S. T. Prideaux -
Duckworth & Co. 1909
London -

Color etching - Hugh Paton
Sniptein, Marshall,
Hamilton, Kent & Co. Ltd.
London 1909

* Art of Etching - E. S. Lumsden

Soft ground + aqua.

Practical Engraving +
Etching - E. G. Lutz
C. Scribner's of New York
& London.
John T. Arms.

* Hamerton -

acid - water - blotters wrapping paper brushes -

one pound from a bag

11 1/4" strips -

test grounds & bites on small pieces of copper. One acid is fairly unpredictable - new or old. ×

One rule of aquatinting is to apply a grain differing in texture from that previously used. preferably fine over coarse ~~coarse over fine~~ ×

Excess varnish must be removed from the stopping out brush to prevent spreading - even when varnishing edges & back of plate. ×

S.G.E. secure material to edges of plate with gummed tape - place wax paper over -

a small roulette used finely is a good corrector - & the tube scraped off as in drypoint.

dust bag to apply.
Coarse grain on figure - fine on background (deeply bitten) - & reverse etc -

look at manet again -

Picasso: The whole range of his etching shows that he prefers the most direct statement - setting down in a few lines what he has to say, & leaving it at that.

aqua. Lacouriere & his sugar process
perchloride to bite

Drypt. suffers more from being wiped with muslin alone - & less so when the hand
Drypt. wiped in one direction may hold a lot of ink, & in another considerably less -

To reverse in soft ground

place the drawing face down on thin paper place another thin paper above & trace

for flat textures place paper, silk, gauze etc. over the grounded plate - with a sheet of smooth paper on top.

Run Rem press under 1 blanket - bite + rework - torsion etc.
& then through the press - where the flat textures are not wanted they can be stopped out before ~~biting~~ biting.

Aquatint (resin) is a white on black method. Sugar process is the reverse - black on white.
Lift ground - lift when varnish is tacky (not too hard)
lift ground - 3 parts black gouache
1 part gamboge water-color
1 lump of sugar
mixed to an agreeable consistency for painting, but should not be too thin. The plate is cleaned as for etching ground & the design painted on the copper with the sugar solution. When this has completely dried, a thin varnish of bitumen powder & petrol is painted over the surface & allowed to dry.
Plate immersed in water
Sugar swells - lifts varnish - exposing design in bare metal.

An aquatint ground is then laid over the whole plate & bitten. The acid will bite the design to whatever tone desired -

bath or feathered -

perchloride - 1 part acid at 45°
to 5 parts water for tones -

for the full blacks full strength at 45° acid is required.

tones may be stopped out or scraped & burnished.

(or) greys bitten first /

plate cleaned & sugar all over again for the blacks

---

a little burnt oil added to oil color prevents it from running in printing.

color in flat masses separated by a white line -

a light water-color wash passed over the whole area.

---

aqua-employed either over successive parts of the plate for tones & textures & for separation of masses (Manet - Goya) or over entire plate by a single biting for the purpose of tying objects together (Goya).

---

difficulties & mistakes must be conquered by enthusiasm - determination must be sustained by the force of inspiration.

* Either the object may be toned more or less dark in contrast with the rest of the plate, or aquatint everything except the note.

This last usually calls for a skillfully applied graded biting so that the eye goes easily & directly to the point of the story which stands out in white relief.

Then there is aqua per se.

Mass - denoting tone - texture - color.
one paints with brush - varnish & mordants. Simple flat planes no longer enough. gradation possible by burnishing but careful not to spoil the effect of the aqua.

Wrap resin in canvas or strong muslin & gently hammer through the cloth into more or less of a fine powder. Some granules must remain coarse or even lumpy. Use ¼ lb. for dusting box.

French varnish - good quality. It is transparent but can be used with a little lamp black if necessary. Mix the black with it in a small porcelain dish. a little alcohol will thin it - a drop or so at a time. fine brushes for thin lines etc. Sable is best & least likely to spread.

clean them with alcohol.
a large cotton swab can be used to
varnish the back of the plate.

[Even tone]

"battery effect" between the grains in
itself produces irregular biting.
ebullient acids are risky.
$\frac{1}{3}$ or $\frac{1}{5}$ nitric
perchloride of iron.

immerse the plate (if biting with
perchloride) in a very weak
solution of hydrochloric acid
will clean the deposit & make
it possible to continue biting
in the original bath - for very
deep etchings to do this twice
is enough.

Smillie's is the best for slow
uniform biting & certain results.

Hydrochloric	5 oz.
Pott. Chlorate	10 oz
water	25 oz.

dissolve the chlorate in 15 oz of
warm water. allow to cool -

add the other 10 oz. of water, then pour the 5 oz. of c.p. hydrochloric in very slowly to minimize the heat reaction. Use when cold.

agitate the bath to remove faint traces of copper chloride that form on the biting area of the plate.

Dutch bath is the same except that 44 oz. of water are used instead of 25.

Benzine supersis to drys.

---

2 min. in box for average coat of fine grain texture.

Begin again + repeat without disturbing first coating if there was not a large supply of resin powder.

place plate on heated stove. if the whole plate rests firmly on an evenly heated stove the resin grain will assume a coppery hue at once. at this point quickly remove + place on bed of pumice to cool. The plate must be turned if it heats unevenly. $\frac{1}{2}$ min. should be max.

a full dark + a low half-tone look rich together in aqua as a foil for lighter half-tones + lights or the same half-tone and lights -

* over heating may melt the resin so that the granules coalesce + renders the ground useless. a certain amt. of coalescence is unavoidable + frequently gives a coarser texture of grain -

This can be deliberate as in A.B. Davies. The ground is dehydrated + becomes very hard.

---

it can be carried in a paper envelope + drawn on with crayon etc.

---

placing the plate on a piece of cardboard facilitates turning it during stopping out. *

Smellie's bath for 30 sec. (at room temperature) up to 2 minutes

for a light grey

for a light grey

clean with alcohol + benzine

ferric perchloride for 30 seconds

⅓ nitric " 10 seconds

or 2 or 3 min. for a strong grey –

quickly + thoroughly rinse + clean the plate.

---

nitric may not bite quickly + is hard to judge –

one 2 minute (from box) coat of fine grain –

room temp. 70° F.

Smillie's fresh bath

10 sec.	pale grey
30 sec.	
1 min	
2 min.	
5 min.	dark halftone
10 min	fairly black
15 min.	
20 min	
25 min	
30 min.	black

The more powder - less exposed copper - coarser texture

less powder - more exposed copper more tone value -

only
within certain limits

The greater the surface area in relation to the bitten area the coarser is the texture - tone disappears - only texture is left.

We must prevent texture + tone from parting company.

add not much more than 2 3 min. coats of resin.

When surface + bite are = tone + texture are closest.

to prevent loss of grain effect we apply not less than 45 sec.

The coarser the texture - the less tonal value.
The finer the texture - the more tonal value.

To get a coarse grain -

(1) increase the amt. of fine powder provided more than ½ the total area was originally covered.

(2) size of grains increased -
repeat several times.

(3) intentionally overheat - with great caution & examine before etching with a magnifying glass to make certain complete stopping out has not occurred.

Size of grain may be controlled by -

successive filterings & transferring from one sieve to another.

avoid draughts - place plate on floor

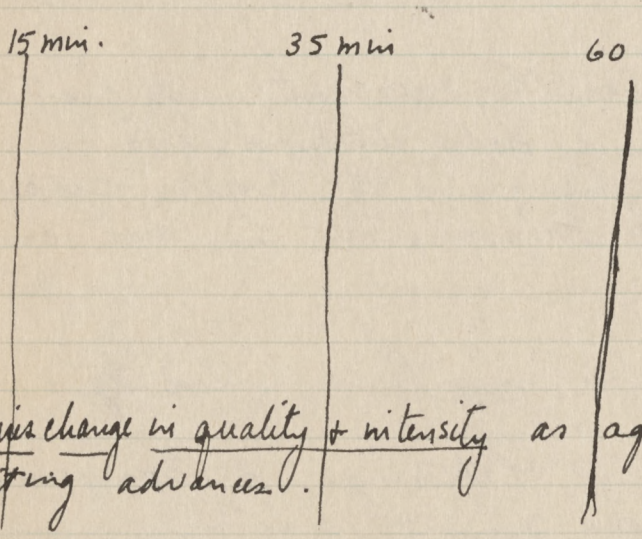
surround with cardboard (flour barrel shape)

hold sieve 3' above plate. tap the sieve or box & shake gently - to bring about a more or less even shower.

hand sprinkling + various combinations for texture.

The coarser the texture, the larger is the edition of good prints - other things being equal.

Sandarac. slightly warmed



Lines change in quality + intensity as aquatint biting advances.

The finer the grain texture the more readily do lines soften + disappear under aquatint biting.

natural asphaltum (also called Egyptian) may be bought at a paint shop or painter's supply (asks Mr. Castagno)
asphaltum for fine grounds

coarse ground laid + bitten.
fine ground was laid + top portion bitten again -

↓

consistencies of stopping out varnish.
for aqua - not too thin or will run.

this powder might do for applied tones -

The Fisher Scientific Co. could only supply the powdered Egyptian asphalt. as this is machine ground it seems too fine - so that although it melts at a high temp - the grain, being a little + while regular, is a little coarse. though nice + light. the dust gets all over everything in laying the ground - should be done on large newspapers - the ground thus laid of the very fine dust scratches easily + is suitable only for brush work in light ground. also it melts in drops + petrol varnish.

try turpentine + spirit varnish -

nitric always used for
soft-ground & large plain
surfaces are painted with
Stop-out against fouling.

The time required to etch a light tone on copper
is only a few seconds.

Spirit ground -

gum dammar 20z. by weight
grain alcohol 70% - 4 oz. " "

pulverize dammar - & dissolve it in
the alcohol - Shake frequently -
after the end of 3 days - I drain
off the liquid & discard the
residue - for fine tones
dilute with alcohol - the mixture
can be brushed on, or poured
in a tilted bath - or sprayed
on with an atomizer.

Liquid aqua

In pouring liquid aqua - lower edge of plate may be dipped to remove the liquid gathered there -

a steep tilt will lengthen the granulations - a flat plate will produce round granulations - gently sway the plate with a circular motion while the ground is drying - cover with a board above the plate to keep off dust (as soon as the grains of varnish begin to settle.)

filter solution with fine meshed rag or silk before pouring back into unused solution in bottle.

do not pour in great heat or cold early A.M. on a dry day with moderate temperature in heat. 15 to 20 minutes suffices for the fitting -

using a border (afterwards removed) to watch the fitting of an aquatint - $\frac{1}{2}$" on one side *

Lift Ground

ground thinly & smoke over a fresh pen drawing - (not allowed to harden) Lay in water 15 min) Then rub it lightly with a piece of flannel -

fresh drawing - Then varnish lifted before too hard - Then allow plate to stand overnight to harden the remaining varnish against the acid.

softground and some drypoint followed by irregular application from dust bag and hand sprinkling -

be careful of final biting of full-strength perchloride

guard against overbiting fine grain blacks as the pits may fuse & become over coarse

fine grain is bitten only 30 min. to avoid fusion of receptacles.

15 min. actually accomplished maximum tone intensity on fine grain test plate I

15 min - did not fuse the receptacles. This is a rather wide margin of safety. The increased biting gives greater ruggedness to the plate for a large edition.

continued biting reduces the tint tone and increases the tone.

The coarser the grain the further can biting proceed without loss of tint tone.

In line - The deeper the line - the darker it is
In aqua - this is modified by changes in the grain.

Ink the lines & wipe the copper clean before laying resin ground - To inhibit the acid from attacking the lines.

Soft ground :-

definitions with hard pencil
shadings with soft -
or reverse.

soft ground bites longer than aqua (filth on plate)
but less than hard line

Thin the ink for deeply bitten aqua

ink hot - allow to cool while wiping - Cold & fast at end.

rag heated & run rapidly over the cold plate several times.

palm & whitening.

perchl - room 75° F. hard copper?
water 200 ml - acid 50 ml. to bring 43° to 55°
~~1 part acid at 45° to 5 parts water~~
for tones. = perchl. 13°
on red copper
full strength at 45° for blacks.

broad tones

tones may be stopped out scraped + burnished -

greys bitten

sugar again for blacks -
aqua in this second state should be slightly coarser or finer than the first coat (varied grounds).
(dip)
graded bite can be used -
or paint wet in wet with brush -

---

perchl. 13° - 72° F
1 min - grey -
use 43° for blacks
brush bite if desired

if ground is not very
well laid -

25° perchl. - at 72-75° F.
will cause fusion in 15 minutes
of steady biting -

in order of biting -

line etching requires most
soft - ground less
aqua least -

warm retroussage is used to give solid blacks rather than grain texture. The plate is first wiped clean.

drypoint + aqua = mezzotint effect in deeply bitten passages.

The burrs looked had with a light bite.

The plate should be cleaned after every few impressions

---

sulphur | paint olive oil on clean plate
Shake sulphur from salt cellar.
let stand several hrs.
repeat using coarser (less powder) ground each time - & always clean the plate before the application
use to support a closely cross-hatched line etching for a more solid tone.

---

5 oz. of resin powder to 1 pint of rectified spirits alcohol 95%.
Shake periodically for several hrs. & allow to stand for a few days.
The clear solution is decanted & impure residue discarded. From this about 5 oz. for fine grain is mixed with a fresh pint of alcohol - more for coarser results.

The burin may be sharpened on
fine carborundum.
+ finished on Arkansas stone.

an occasional wipe on blue back
fine emery paper will keep the
point sharp while working.

remove burr with a scraper

close lines & varying thickness
will give a black without
cross hatching. sparkling,
decorative, astringent &
expressive linear quality.

decoration & precious metals
Mantegna. etc.

Burin -

raise the hand slightly on turns -
The wrist must rise a little to bank around turns.

keep the ∠ of the burin constant.

The better the cut, generally speaking,
The longer the coil.

sculpture the metal

schongauer -

cross-hatch came with Durer who gave up the line -

xx xxxxx

Hayter

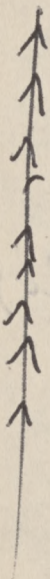
xx^xxx

stop out around the line + grey the texture!

* preserve the line

little finger under the hand

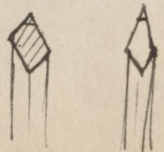
spurs burnished
forward in line = white dots

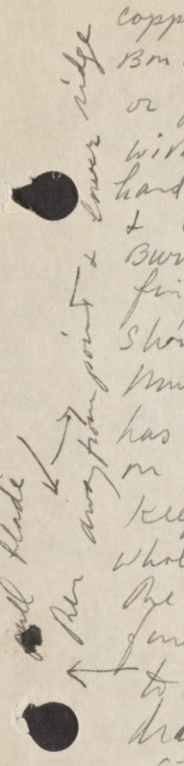


to engrave curved lines - hold
the plate // the table -

The mural 'scale' of prints –

Burin – filed – with a flat file –
copper – back may be scrubbed with a brush and
Bon ami or Dutch with a little ammonia –
or planed with a large charcoal + polished
with fine emery – held flat under the
hand, + not pressed down with the fingers alone –
+ carried in a prevailing direction –
Burin is grasped in the palm, directed only, with
fingers – tested for length + fit – the point
should be perfect + pick up the finger nail + +
must be sharpened as soon as ill – use + it
has worn it – on a stone – keep steady + straight + wear down the
whole face – / stone in Cocks – when ground on
one long side / the stone – finish on the
fine side, + then very carefully so as not
to disturb the bare ∠ / the / shaft –
draw flat + lightly along stone to remove
slight edges + / pricked – ∠ / burin
is low + very acute – pressure very
slight – Rt. arm relaxed + resting
on table below elbow – plate turned
against tool with left hand – keep
tool straight – use quite freely –
in venting patterns – shapes – lines dots
etc. polish burnisher on fine emery with
oil – polish scraper on fine side / stone with oil – in scraping – hold it
rather flat on plate – you can almost
burnish with it – across + along lines





printing. Adelaide 17

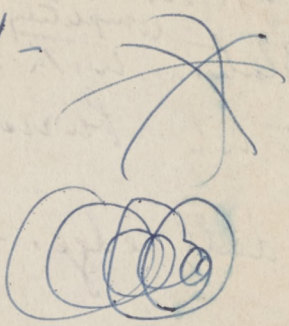
ink up well -
use inky rag flat
2nd rag - ? flat - slightly inky
3rd " hand flat - palm
keep ink well in lines -
clean edges + wipe off plate
to edge + over — no retrousage
hand is used clean -

Run plate bitten out + cut through -
drilled etc.

Strong acid all right -
printed in relief - white on white etc.
bite out + engrave in low + high areas
match them + aquatint them etc.

1st rag — 1 yd 1/4 45" —

refold —



refold -

hand ink — fingers

flat of hand

slap —

hand with ink + chalk

ink — raw oil + varnish

Frankfurt + vine

2 /

smooth the burr down on
engraved plates, completely with scraper
held flat like burnisher

sharp + dull edges — marked

print 2 proofs —

work in me + lay other
aside as need —

I. space of landscape + folds

II reduce upper edge of eyebrow
finish hand — reopen eye line?
remove ankle lines?!

III reduce hand holding rope — +
face? folds of shirt
drapery —

IV redraw hand — + line of lamp —
lighten area against body
of shepherdess — strengthen
sheep — replace a little
modelling in the lamp —
strengthen drawing of hair
of shepherdess + a little
more shadow around —

less dark — more?

VII reduce blacks? remove
some hatching on the rod

IX foot — remove added line + left-hand
line — add a line to right —
shorten tendon line of toe?
other foot —

White

squeeze fine tarlatan nice in cold water - Do not iron - for retrousage - rub it down & fold very lightly letting it fall into place - You can fold it lengthwise nice & then unfold over the hand - For regular wiping - fold it twice flat & then fold ?

---

to wax a plate - prepare wax by heating it & driving off air bubbles - pour into a pan & dump out when cool - melt less wax on plate & tip & flow it around -

---

The fuzz on the retrousage rag & a light touch will draw the ink out.

With an inky rag wipe against & across the lines - as ink will stick to ink & if you wipe along a line the rag will pull the ink out.

Peggy Rockes -

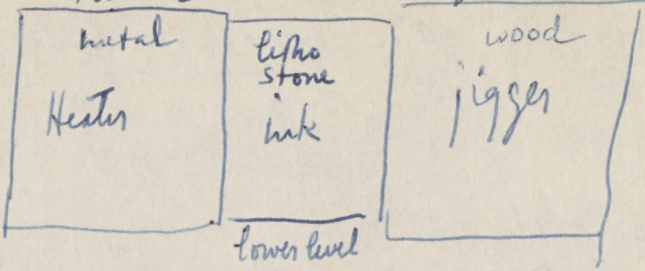
23 directions

After printing from a small plate - Smooth & change the mark if the plate has a large plate & will show

Print

Keep roller wet with water
bronze core – canton flannel – cut +
touched on the core – quite thick covering

Beeswax – no paraffin



litho muller.
large spatula –
screen the ink (if old or skinned) with tarlatan + spatula

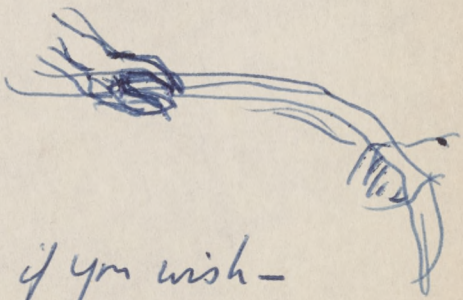
gilders whiting in fine powder

mix with water + knead like bread
This holds it together – Then make

flat ◯ Shape –

soften | squeeze in water

handling the rag –
pulling it out



soft pad –

2 or 3 folds first if you wish –
before bundling it up –

felt blankets mat up -
woven " are much the best -

To clean plates -
wash with hot water
use a little lye in solution in hot water
when water rolls away plate is still greasy -
greasy fumes come around from the back -
Sodium Cyanide -
1 ball in a jar of water
or 1/4 " nitre in jar +
fill with water

plate glass - heavy

to use a compass on
copper - set the point
on a piece of acetate
Stuck down -

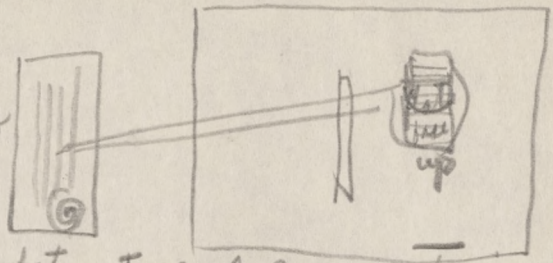
transfer way -

rub way over engraved section
place acetate on section
rub down -
lift off. ~~turn over~~
place on other plate

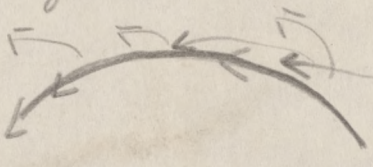
Soak charcoal in oil -
use " to remove burr
rather than a tool.

(A) to sharpen turn 45° —

plate glass slab.



slightly rotate at end of operation
Line up 45° ∠ with a small △
held ∥ to blade on slab —
turn screw to fix blade
" " " " shift & rotate face
toward right - so that
a sleeper edge will occur on
flange side



pressure —

Then holding sides of blade flat on
fine emery paper draw tool
back once to sharpen edge
& remove any roughness —

(B)

rotate burin cut

a bottom cut area with engraving on the bottom of it — + also on an island left in center —

recenter burin lines to model —

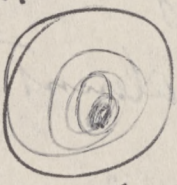
to pull up easily from the copper hold tool down to acute ∠ ?

dotting tool = a very fine roulette wheel —

hold forefinger down low near point -
3rd finger ~~block~~ of thumb -

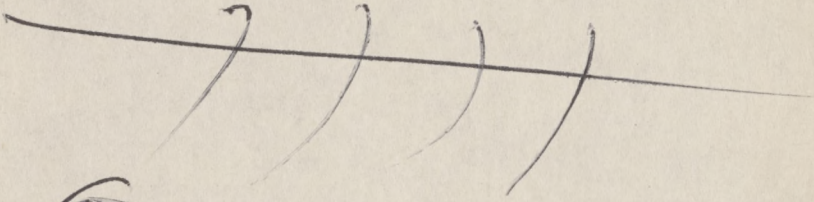
---

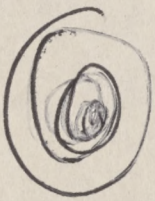
rough -



plane off point
entirely at 45°.

wrist & elbow stiff -
hold across hand





smooth side

Arkansas stone - sets molecules together & hardens. When you lay down the cutting edge lay it down from the outside in -

San Hugo

cutting -

hold forefinger down near point -
keep vertical direction at all
times. 3rd finger back of Blade
use a ◇ for almost every thing
always cut slowly -

Colors

wipe intaglio -

before

or after

Color

large gelatin roller

roll color out on glass slab

take up on roller

roll smooth on wax paper

roll on plate

print rather cool

some intaglio in color- painted freely-
color trodden in from stencil

then wiped a bit-

plate smeared face down in color-
wiped with fingers-

plate printed in color 1st. then
reg. in black slightly off register

on 2nd printing lay blanket
under plate + then paper
face up + plate face down-
in print- black 1st - then color

one color can be varied + will
register from dark to pale according
to surface -

1 or 2 woodcuts used as a special
+ unique half tone with my own -

prussian black on grey-ish paper -

Schrag - pale tone
blocks of basic color
black aqua with blurred
edges - freely brushed - lift ?

2 parts frankfurt to 1 part vine
towel into lump + store in waxpaper
grind lengthwise on slab -

oil ?

oil for color ?

---

white - bone black
ivory black
+ some blue - prussian or ?
will give a fine cold black for steel
engravings -

In printing, after the plate is
wiped - even after hand wipe ! -
take rag (cotton rags !) rag + wet it
+ squeeze it out - dip it in to
a weak solution of lye, a teaspoon in
a bottle, + squeeze rag in water bag again + wipe plate

tightly for a sharp line

35 PARK PLACE
NEW YORK 7, N.Y.

1252 FROM
~~1240~~ S. BERENDO ST.
LOS ANGELES 6, CAL.

JAMES WM. PAGE, MGR.
PHONE DREXEL 1037

2/6-50

Joan Kellogg. Sending you couple copper plates for experimental purposes. One hard yellow & one red. Try them out. The hard is only one I could recommend for etching. Not only develops finer lines but is 3 or 4 times as lasting. Should under proper handling get 1000 impressions on Plate Press. However in etching hard copper you should use Fe. Chloride at 45° Gravity for better results. This from best etcher I know in L.A. Most Fe Chl. 42 Gravity. If unable to get 45° Fe. buy 42 and let evaporate until tests 45°. For Engraving my friend prefers the red copper. Lines develope wider and of less depth. In hand engraving much the easier to work with and control. However red copper is only good for up to

over

Here in L.A. Precision Chrome Plating Co.
1045 No. Mission Rd. L.A.
Phone Cap. 1-1707.

Probably some works in S.F. for same purpose.
Unless you could stand considerable delay
for safe 2 to 3 months advise order sent
you from N.Y. direct. Would not attempt
to cut plates here in L.A. Only way I
could be sure getting the best possible would
be this way. Plates of this size should
be cut with presicion machinery which
is something I do not have. If you
could stand 2 to 3 months delay in
delivery I could have shipped to me
with my regular supply and reship to
you. This way would save you
around 3.00 roughly. However I think
the plates would get closer inspection if
shipped directly to you. Yours

P.S. Wells Fargo cost direct 100 lbs - 4.68

2nd Page

L.Q. 2/6-50.

Just came to me. You have a fine engraver formally with the C.W. Ritter Co in Carmel somewhere. At least there is where he was to locate.

Name is Sandifur. commonly called Sandy. Went there because of poor health. He is a good one.

Yours
Jim Page

Aquatint etching -

paint the design with asphaltum - etch away rest of plate - which will print in relief as white -

use a hard rubber roller

roll ink out on slab -

apply evenly coated roller to plate - do not allow ink to descend into sunken areas -

cerulean

red purple S.V. — tan ← cool
yellow green S.V. — to range ← warm

moonlight tones would partake slightly of local color + be ashy luminous —
(electric or phosphorescent) →

possible design. Lion standing on top of cliff in back view - looking down + out across gulfs to Pfeiffer's headland

In biting out large areas of line work - (such as soft ground) with a strong nitric - warm - perhaps the plate should not be moved & reimmersed, as the strong pattern of bubbling - crystallization etc. is then quickly muted or blurred - ? The nitric seems to carry certain lines & patterns down with it -

± 15 min. lowers the level of the plate considerably under certain conditions - & gives a grained background printing grey

(2 hours for dup)

lowers the plate just enough to print white delicately but the gd. roller still touches the background -

try a hard rubber roller for color on relief plates — see if it stays clear of the background better than the gelatin roller —

Try working three relief levels for the foam + true shadow pattern on beach — combined with the line — the concept of the engraved relief will have to be worked out —

Try spacial composing with lighting out with planes drawn not // to the surface —

In biting out with strong nitric - The first pattern to appear (if the bubbles are not disturbed) is a circular pitting which may come in (5)? 10 or 15 minutes - A longer attack will reduce this pattern to the striation & character is the spacing of the metal in whatever direction the copper was rolled -

a number of levels may be reached in the plate - but at least 3 - & frequently more times are needed to achieve a real raised white not reached by the gelatin & clean & covered rollers - The hard rubber roller may be used if the background is shallow -

The problem of closing the gap
& drawing together of the
free almost automatic biological
use of material & its
organic effects with the
great formal principles
of construction in art —
Rembrandt - the Chinese —
Cézanne &c.

It seems to me that the
greatest artistic structures
are those which create
or discover new structural
solutions - They are based on
a synthesis of a conception of
the universe & a formal
conception - in which the form
has independent life but is
deeply & dynamically - even

organically related with a feeling for the meaning of life as eternal creative process - Thus Manet was a great painter but Cézanne a genius - raised by his tremendous grasp + conception of the onward march of form - Manet worked well with light - with the touch - with color + atone all freely in the graphic media - but this profound new structure was not so much here - The self was still material -

Decorative uses of the material must be meaningless unless informed by a high intention - while the material

dictates - it is not sovereign but in relationship with something else. It is a proper vehicle - not anarchistic as in much modern work —

Line Engraving.

Dürer was the first to introduce etching amongst line work, so that you will expect severely laid lines cold in appearance, also looser work of a rougher edge to the line.

French line engraving - delicate - & great refinement.

textures are easier to accomplish in line engraving than colors - one can suggest both however.

Fur - short curved fine lines & even dots

hair & animals by long cross-hatching

a plate can be etched in - then the lines filed up & tapered with a graver - & engraved lines introduced.

metal - parallel lines - some very heavy with fine ones between never crossed diagonally, but if necessary at all at right angles.

cloth

wool - mostly in dots & comma-like markings;

silk is ribby - fine & coarse lines never crossed.

ordinary cloth - diagonals -

follow faint the natural curves -

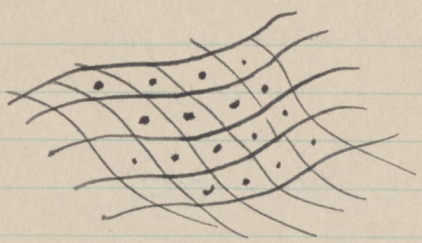
color is done by filling in between the lines - in the lozenges formed by the crossing lines.

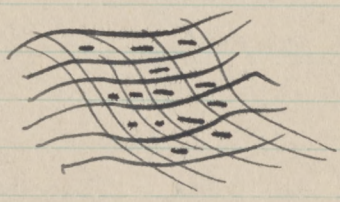
Now there is not much space to do anything in & sufficient for the purpose for color must be secondary to form. The warmer tints are supplied by a round dot, the cooler ones by a dash as horizontally as the space permits.

There is another type of line terminated by a slanting line at each end of the dash -

It makes a difference & plays & acts as a foil to adjacent textures

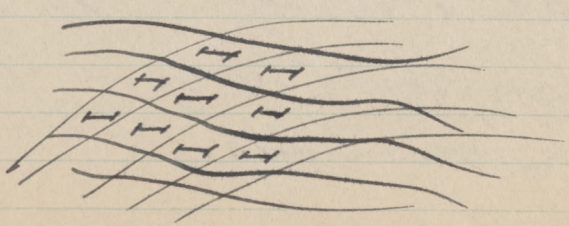
warm tint drapery.



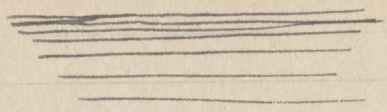


cooler tint.

coarse lines can be crossed diagonally by finer ones.



Water · smooth -

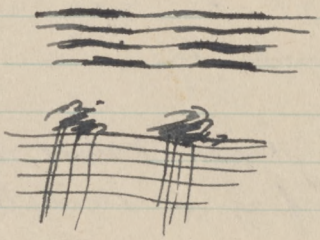


also suggests blue in anything

agitated

can be enforced by fainter lines between & not perfectly //

Waves & waterfall - the lines cease to hold horizontally - but follow the curves of the surfaces & a great deal may be done to secure a swinging movement -

By careful thickening of the lines or adding others in // we secure the glassiness & reflective effects also by verticals of less strength than the main ones.

Turner

" The question of a + line to the water — pray, do not think of it until after the very last touched proof, for it has a beautiful quality of silvery softness".

(A ruled tint over direction lines is not so good) losing chance of any glassiness.

In the old work - it is all in the play of the broken line & its admixture with white spaces & black dots — to secure "effects & textures".

Flesh -

fine lines following the surface curves. breaking into long dots & then shorter ones as the high lights were reached -.

The line engraver must consider

(1) form - surface & modelling

(2) tex tures

(3) color

(4) general effect.

Contrast in line work.

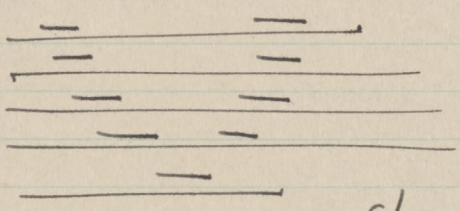
Lines largely following the curve of the forms last good.

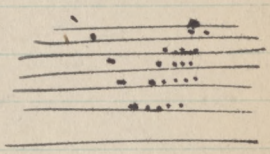
spaces between ends of lines are important

cloth of a skirt
(not square across)

Landscape in a free "loopy" manner.

patterns

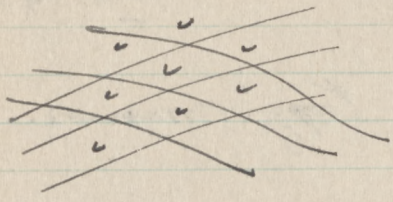


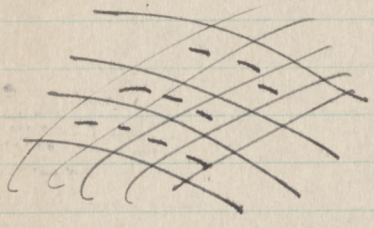


shawl.

white sleeves – free 11's

before you touch the plate the arrangement & system must be worked out.





Draperies

The shadow of a boy on the bark of a tree is secured only by the lines being thicker – either in

hitting on recentering the lines with a graver & so widening them.

carpet – secondary – playing into the figures &

Strong horizontals – slightly waved with transverse lines, not so strong and at not such acute angles as for drapery.

Shadow secured by thickening of the lines.

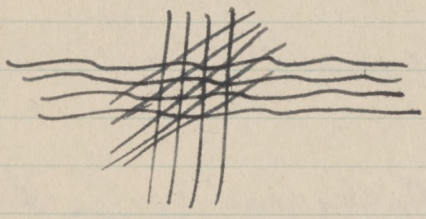
Coarser scale to suit a large plate

a few dots not running in a straight line amongst the lines but bulging out suggest a lacy effect.

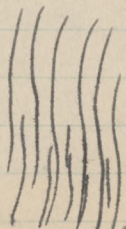
Shalice & Bell - Severe in dependent lines in // & lights left bare.

Cloak.

Coarse & fine //s alt. & crossed by fine lines.



Equal strength lines.

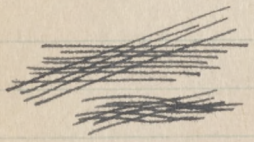
open fine wavy 

Thickened & interlined for form & shade

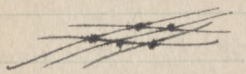
Conventional grass?

paper document – series 7 lines slightly wavy where desired.

Long dots in the lozenges can become fine lines – & then some delicate verticals bisecting the lozenges & crossing the fine & coarse series of lines.

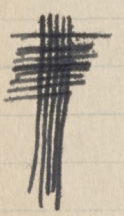


watered silk effect very fine & diagonals.



the effect of biting in such lines – (acid works more at crossing points)

grass must be most conventional.

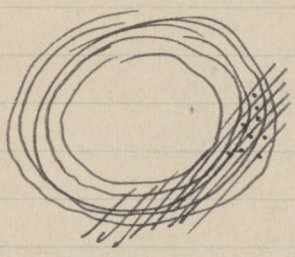


lines thicker than spaces between & crossed by wide strong lines = a flat surface with white lines.

sympathy with the returning curve.

The engraver should carry his lines round a curved surface in such a manner that they suggest that the curve continues after passing out of sight.

Sphere & half sphere - marked difference.



shadow -

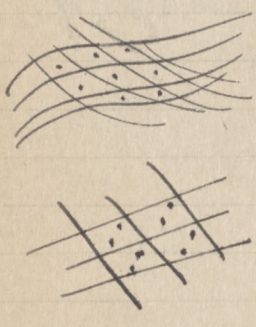
The value of pure white.

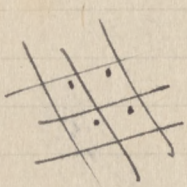
However powerful the line was, the dot was equally so -

widen the line so long as it is narrow enough to hold ink - while the plate is wiped.

In the best old work, the dot was never included without a very good reason - In draperies it is very important.

in the middle - singly or in couples or in one of the Ls.





← less interruption

• pure round (etched)

• the same flicked with the graver

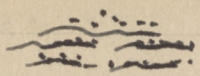
• " " more than once

• carved dot

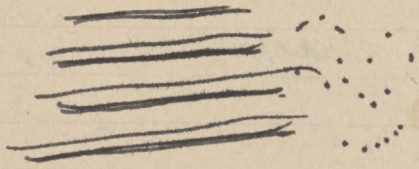
- long dot.

old stipple

colonies of dots for shell clad rocks etc.

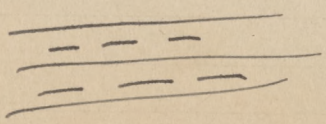
 ground + tree trunks.

Strong dots on white = gold embroidery.



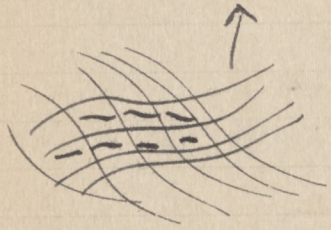
Very small sharp curves are hard with the burin — bite them in — more sweeping with burin —

rock the burin from side to side for waviness.

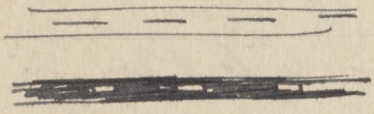
 reduces light + keeps a smooth effect.

. dot with a tail (not in same direction as lines) = roughness -

across a lozenge it roughens the material -



irregularly it looks peculiar & is used for contrast.



bitten -

the whites kept the ink from being wiped out.

an exceedingly heavy line.

marble floor - open strong lines parallel
fine lines between to give pattern.

or ditto but using long dots.

Reynolds on a certain meggotint

"injudiciously exact"
that had to do with tone.

Turner & his engravers
a preliminary etching giving
the whole scheme of the picture also
the direction of the lines.

This proof can be worked on in
Sepia & pencil & lights scraped
as a guide to the final engraving.

The line work must be adapted to
the size of the plate, & the
distance from which it is expected
to be seen. What appeals to the
eye close to would be structureless
& without interest - a ~~tone~~ or a
muddle. a certain distance off.

delicate setting on final ruled line spacing on the finished engraving - (not over the animals etc.)

chloride of calcium absorbs moisture + can be used at the bottom of a drying box -

a touch of lysol in the damping water will kill mildew on a print -

to remove mildew with a silk handkerchief, but do not rub.

tape for tears (trans. scotch-

press - do not rub -

a fine brush (sable) + oil colors touch. for a rubbed print. Remember the color deepens - a brown turns blackish

Leave fixing alone +

paste + litmi papers starts
fungus to grow

Soft-ground -

In making soft-ground plates from drawings (of the nude) use a thin laid paper + good pressure - 2 layers will still "take". Siberian charcoal + laid paper gives a very grainy line - lead pencil less so. Be sure the drawing is absolutely perfect before. Starting to trace - If the drawing is on paper laid over the textured sheet, the upper sheet must be very thin -

---

soft ground with tone using one sheet of paper -

substantial but not too heavy ground -
thin laid paper -

4B + B - sharp - firm pressure

Then apply pressure to whole sheet + stop out areas -

tones + lines will be achieved simultaneously in one biting.

* etching should only be done on good days
do not sketch too much on copper
* warnings—

defects in drawing are always
Evident—

in stopping out lines that
are biting out of scheme
the varnish should be applied
to the line only— as a
light area / or edge will
appear along the line if
the general tonal area
is / allowed to continue
biting in

continue rolling out &
applying fresh paper
until / a satisfactory
drawing has been
achieved—

be careful of stopping out—
i.e. edges of lights etc.

it is a good rule that
stopping out should never be
done / carelessly or impressionistically
or in a painterly way—
Solid effects come from carefully
applying the varnish—

sculpture → painting → sculpture

painting → calligraphy → painting
(pictorial symbols)

It is thus obvious that any change in the nature or structure of a thing is accompanied by change in its color—

Fiedler

What art creates is no second world alongside the other world which has an existence without art; what art creates is the world, made by & for the artistic consciousness.

What has already undergone some mental process is lost to art, because artistically is a ~~mental~~ process by which the mental possessions of man are immediately enriched. What excites artistic activity is that which is as yet ~~untouched~~ by the human mind.

Art does not start from abstract thought to arrive at forms — it climbs up from the formless to the formed, & in this process is found its entire mental meaning.

Duchamp:

It is possible that these unknown, profound and abruptly grandiose aspects of nature do not have to be aestheticized in order to move us ... These conceptions are not determined by an aesthetic, but by the energy of a few lines (forms or colors).

This technique can produce works of a strength so far undreamed of. It may even play a social role.

Our art directed to wresting from nature, not intellectual generalizations, but collective forms and colors. The perception of which has not yet become knowledge, is certainly conceivable of a painter. Like Marcel Duchamp is very likely to realize such an art.

"a phantasy that is exact" Goethe

productive cognition

perceptual vs. conceptual understanding

visual conception of the world. Fiedler

mastery thru the visual.

The great principle SEI DO

LIVING MOVEMENT
(identification)

principle of designing a narrow panel by the use of 2 auxiliaries afterwards removed.

suggestion + the stimulation of the imagination.

landscape SAN SUI
= mountains + water.

analogy.
Subjective impulse
gesture

use of other natural patterns to form patterns of seemingly dissimilar objects.

Ex. branch of pine tree painted on the STork leg principle etc.

dot
line
mass

rocks - axe marks
alum crystals
wrinkles on a
cow's neck
etc.

SHA I . ARTISTIC impression

boldness + living strength of the brush strokes
fade no chicara—

brilliancy or sheen + shading of the semi play of light + shade in the stroke considered a divine gift + a kind of abstract chiaro scuro.

IN YO - CONTRAST

darkness	↔ light
negative	positive
female	male
passive	active
lower	upper
even	odd

not only in the whole is this principle, but in details -

i.e. 2 tigers in lair - one with mouth shut / other with teeth showing.

2 flying crows - one with beak open
one with beak closed.

Project for soft-ground -

3 levels -

A beach - warm low light

B shadow - warm dark
or high dark

C water film - cool light
and low light.

Patches of beach show through the
tree shadows lying upon it,
and over these two the water
films advance & recede in
moonlight. with the characteristic
undulant edge marked lighter.

small-shell- white line aqua- alloy

faulty background - insufficiently laid
with resin - scraped down & a
new fine ground laid - bitten
at about 67° F. 25 min
with 30° Perchl. & about 3 min.
with 43° Perchl.
the lower right portion of plate
below shell also rebitten -
a slightly coarser ground over
the old ground - bitten
20 min with 30° & 2 min
with 43°.

Be accurate in the proportions of the grounds.

To lift well - the varnish should be as thin as practicable for a safe ground -

try Russell ground also -

use warm acetic to lift - but do not brush soft varnish across the exposed + lifting area - better to wait longer in cooler water -

paint on the bare plate for precision + the plate must be absolutely clean + grease free for taking the lift medium - otherwise it skips + does not make a firm adherent stroke -

Lift ground -

It might be better to draw directly on the copper to avoid the spreading of the lift medium over the grain - or else the tread should be so constructed as not to run.

Try - 1 part gamboge
1 " gum arabic
1 part soap solution
trace of glycerine

---

2 parts milk
2 " syrup
1 part soap (tincture of green)
trace of gum arabic

The grain should be firm to support pen & any rubbing - a point can be used to break through it.

---

experiments with bitumen varnish

In pouring the varnish
for the last ground —
it must be thin —
So pour in one direction
and drain off at the
opposite end or corner —
It is better, if a spot is left
imperfect & uncovered to
touch it with a soft brush
afterwards — rather than
reverse the plate direction
while draining, as that results
in a thicker coat — double
thickness — as the varnish
thickens very quickly — &
does not drain off properly —
use the pour method & the tilted

Also in pouring - you can pour first from the end with the rest work as the top edge of the plate will be thinnest & the varnish will lift more quickly.

It would be well to filter the varnish each time before pouring to get rid of clots, & in any case the plate should be well dusted with a soft sable before the ground is poured -

When liquid ground clots continually, but is a good varnish & may be thinned a little with ~~Fissentt~~ turps.

The plate may be heated before pouring to facilitate drying, but it is best left to stand overnight - (see notes on lifting -).

try a mixture of gamboge & water
for painting lift ground

1 part gamboge
1 part Gum arabic
1 part soap
trace of Glycerine

---

try drawing with pen upon the clean plate for precision

ground with Thin liquid ground
or Russell ground?

soak in acetic

The plate may then be bitten in aquatint fluid.

dust ~~plate~~ It might be well to brush ~~Be~~ away dust on the plate before pouring the lift varnish.

30 seconds is quite sufficient
for a light grey —
in 65° F. with 13° perchloride —
The greys bite quickly — the
darks take correspondingly more time.

working the left ground -

pen. ~~to~~ sharp + softley
stiff - flexible

brush -

dry and full -

stipple or clear -

—

finger prints etc.

scraper

burnishers

roulette

Stop out -

greys can be scraped or
varied before the black is laid

light red pen greys -

brush greys -

soft & clear -

varnish markings &
textures in grey & black -

values of a dazzling
brilliance -

silver greys
deep grey
jet liquid black
pure white

---

pale grey
~~med grey lig~~
grey -
black

Light
low light.
white

---

grey light dark
black

---

low light grey alone - varied with
an accent or brush marked
darker with acid -

The difficulty of getting a good
final dark on the hard copper
may be due to the fact that the
43° perchloride attacks the resin varnish
grains too fast - & creates a
crust before enough depth can be
achieved - one might try a
weaker solution of nitric -
In line etching (on hard copper) the stronger the
perchloride the finer the line -
But in aquatint some
experimenting would be
necessary -

LIFT

METHOD THAT SEEMS TO GIVE CLEAREST RESULTS -

clean copper thoroughly & finally in acetic acid & wash with warm water & soap -

paint fairly thickly on metal with sugar-like solution -

pour varnish while ground is still not too dry
Dain & even -
Weber + a little fine turpo -

let dry overnight -

lift slowly & carefully
in acetic acid or vinegar
& warm water - warm
only slightly when necessary
& brush with clean sables
very carefully - not to move
the varnish or make it too
sticky - This requires
patience & may take
several hours

lay aquatint with as little heat
as possible in order not to make

Use varnish thin at the edges of the lifted areas — just enough to fix the resin

mastic has a lower melting point than resin —

bite as desired —

Stretch a washed blanket
with pins on a board—
(½" Brads.)

colrs —

midijo -
antwerp blue
Prussian
chromate of lead (yellow)
yellow ochre -
alizarin -
Indian
Venetian

grind with oil varnish a
a bit of copaiba balsam

& venice turps?

paper stumps
fingers —
brush
roller

stencils —

to make abrasive charcoal -
Experiment with different woods
for various depths of hardness -

place wood in fire place -
burn till flame has gone
(& smoke is clear?)
remove with tongs - place
in covered can over night to
cool - keep can on fireproof
surface.

cross work with abrasives
to avoid deepening grooves or
pits - & to remove bumps
or texture -

a plate may be generally cross-planed,
but for a small area an
oval motion should be used.

Corrections:

The burnisher is used – diagonally across the line rub with charcoal + oil lightly in small circular strokes –

a sharp scraper – oiled surface of metal pull diagonally across the line – change ∠ of plate frequently –

* Etching ground:

pure white beeswax	1 oz – weight
Sum dam mar	2 oz "
Japan drier	¼ " "

pulverize gums, add to melted beeswax – dissolve – add Japan drier + leave on low flame for 15 min – Remove + Strain thru 4 thicknesses of silk stocking – then pour into pan of luke warm water + make balls – roll out on warm plate + then apply to

plate to be worked -

- rebiting ground -

White beeswax 1 oz weight
Sum damar $\frac{3}{4}$ oz - "
asphaltum 1 oz. "

heat & add as 1 2 & 3 -

when dissolved add $\frac{1}{2}$
teaspoon tallow - Strain as
before & work into balls in
lukewarm water - apply
almost cold -
roll out on metal or
marble after heating &
melting - & then roll
in the plate, & stop and
areas to be left alone

To correct defects in the plate by

knocking up.

anvil of tempered tool steel
perfectly flat & polished -

1 hammer - Convex
1 " flatter
all edges slightly rounded up.
face perfectly polished -

tap or knock using wrist
movements alone & letting
weight of hammer drop
on plate - the pivot is
between thumb & 1st finger
& either near the head or
further up the handle according
to leverage desired - tap also
around the area - & try to
prevent the edges of the
plate from curling up by
holding it down slightly -
then paper can be smoothed to

The back of the hollow is deep & the whole passed through the press & flatten the plate – Rawhide hammers can be used on the face –

Sight the curves & straightness of the plate by sighting the edge with the eye closed – hold the plate against a light piece of paper & something –

methods of calipers in spot to be repaired without using a calipers –

~~pass a~~ print or press a wet proof – properly registered on the back of the plate –

or trace the drawing accurately on the back – & find the spot –

use the fingers & sight against

the edge of the plate.
place the cross against a
small slip of wood - match
stick placed in a firm
surface - & find the spot
with another metal piece
on the back by sighting &
turning - & make a mark -

The use of abrasive wheels
from coarse to fine to
rubber with abrasive - to
sponge - remove coating
with chisel & reload.

Superfine abrasive in cutting
oil -

Lapping material
used in finishing
auto cylinders

MONOTYPE

Monotype -

Degas touched up prints like monotypes with pastel.

In sending a large sheet of paper through the press - in order to get it under the blankets & roller without smearing or sliding or touching the plate - the far corners must be sent in sideways - that is standing at the side of the press rather than the end - & laying the paper down on the end & along one side - even with the bed of the press - holding the sheet by the near left & far right corners - the press of course, must be ~~unstrewed~~ to release the print, & reset for each one - a process expedited by using the inside calipers under the top bearings or packing blocks.

oil color can be reduced to thick cream with a small amt. of slow drying oil & kerosene

Bleached linseed or thinned Ct. stand oil -

The color can be thinned with turps & spattered on by drawing the edge of a knife across a tooth brush dipped in the color -

To obtain any depth effect & esp. darks - the color must be fairly solid - but not thick enough to spread

Monotype - spanish method

2 turps | dissolve in steam
1 beeswax | or double boiler
let stand to evaporate a little turps.

add heavy damar and grind ink.

roll out smooth, and apply to plate or paper in squares.

positive ink plate
lay dry sheet of Jap. paper down lightly. Draw design with brush handle or pencil. pick up paper & print is on reverse in colored line - to take a negative place another sheet - roll & press down & pull.

registers for several colors.
3 Ls

white can be used -
oil ink or color -
and water color applied later for white line

Transparent color can be applied or offset to a canvas from other material. Traces can be rubbed on or off.

Stencils can be used to lay color then it can be picked up on the print.

---

a line can be traced on to an oil painting, or water color from an inked sheet of (Duri?) stencil paper.

Tracing paper can be used for setting the design

Blacks are added last.

White uses only waterproofs — no glass.

for damping paper (overnight)
pack face down —
damp each on back —
Then on face & place pack face down

Sponge not too wet

after ½ hr. one can turn each sheet end for end —

for thin waterleaf — damp only once & turn every other sheet face down —

Contours - orange - ver. red
blue - pr. + ultra
warm brown
r. u. lamp black + carmine

Indian red + lamp bl. = dark purple
yell. + verm. + carmine = orange

a pound of r. u. cad yell. + black

or OX. chr. or pr.

lilac + yellow + dark sapphire

Grimes place - Palo Colorado
white horse - knobbed square shapes
strong character + solidity - evil face (or homely)
—— standing against planes of sheet iron roofs

the great bull - lying in pasture - against
red blood sunset streaks.
when he rises he raises muzzle high in
air - unusual gesture - frightening -

---

landscape glimpse - rising mist after
storm looking toward hills -
circular forms - bushes - hill mound
& circular clouds - a progression
of circles - only less learned than
Pleasure - blue + white + silver yellow + grey greens -
in this case the progression
runs from mist to clarity -
that is - near forms seen
through planes + layers + veils
of mist - to shock of clear
blue sky + clear white
masses of cloud in distance -
seen through - an idea as
opposed to clear to aerial →

Hegar - Czech -

treatise on technique

Nezval - (Vitezslav)
poetist
surrealist

Gocar architect
cubistic church - Prague -

delicate prints (to be stretched) may be dampened with an atomizer

60 Fallen Cormorant (Cormorant + Rock) drypoint 1/12 1954

15 Summer Voyage (Sails) etching 5/30 1954

5 Old Bone ancestral sketch - 3/50 1954

15 Ocean Pattern - " " 1/50 1954

Editions - less trial proofs - artist's proof & those destroyed -

price	Date of copper	title	medium	no. printed
$25 - $15.- framed.	1950?	Leaf	S.G.E. ENG. tan jap. 21/30	22/30
$15.	1951	Shell	aqua -	
$35.-	1951	Kelp I	E. D. A.	7/10
$40	1951	Kelp II	A. DRYPT.	2/6 | 9/12 III
$15.-	1952	Butterflies	lift	4/30 5/30 6
		~~print with slightly missing lines~~		
	1952	Into the rock -	S.G.E. 2 I	5/50 II
$30.-	1951	Night flower -	aqua	4/12
$30.-	1953	SEA-URCHINS -	drypt. 4 6 8 To be replaced - check dates 3?	no. 9 destroyed 5 9/50
$ ~~25~~ 5.	1953	BOBBINS	S.G.E. E.	7/8
$45. $50. framed -	1957	Fish head	I E -	57/50
~~$20~~ $15.	1954 Spring	Ferns	aquatint	3/20
$25	1954	Cypress in wind		3/50
$20	1954	Snake (Illusion)		3/30
	1953	Surf - foam	aquatint	1

1 or 2 roulettes used as a
Special halftone with aqua-

Color-

Some intaglio in color
painted very freely.

one color - green - will register
from black to pale green
according to the surface -

Prussian black on a greyish
paper -

Schwarz
pale tone - blocks of tones in color
black aqua -
blurred edges -
freely brushed - left?)

A. When plate is printed several Times
black last.

B. In intaglio when plate is put
through once - black first

grind color with same oil as black -

oil composition for color and black

color on a relief type plate -

1 black -

2- gelatin roller or offset

3 roll 3rd color -

plate slightly warm to print

---

creamity white gives a bluish grey when printed in black -

yellow appears - dull yellow green -

permalba would print whiter in the absence of titanium?

summer 1955

Plate VI L.S.

I did not get a real black - the deepest black - in my bridge scene. The plate should have been worked more. The principles & the line work were correct, but the over glazes should have been closer, and the understructure of the mountain less heavily bitten. This happened when the whole plate accidentally rebit in the dutch mordant, as I was adding the foreground figures. The varnish was not fool-proof, & the plate lay upside down in the mordant ~~for~~ an hour. I discovered the trouble when I added nitric with a feather, & it bubbled over the protected passages. The rebiting favored the underbitten beams of the bridge, but it overbit the background of the mountain. I was lucky not to lose the plate entirely. I think the whole plate could have been

finished entirely with acid - & the velvet & proper distances would have come with the inked lines alone - & clear printing - as it is I used the graver & the drypoint. I failed where S. Palmer succeeded with his Virgil - but I achieved other more abstract qualities in the design & conception - style of drawing etc. I went back to the sketches of Rembrandt.

There can be a perfect black - not overdone like E. W.'s pelican wing which is too black - or rather too much black - not too black -
There are other photographs of this that have the whole symphony -

The very able but conventional portrait of R. L. Stevenson here in Monterey by a master engraver in New York taught me a great deal. It belongs to the State of Calif. & Stevenson house. The black coat is a masterpiece of depth of black - all bitten?

Mr. Lieberman - curator of Prints
Museum of Modern art - books
Munch.

Ankey - C. Valentin 32 E 57

Atelier 17, 5-23 av. Americas
Watkins 9-3525.

Leo Katz - amy Waters
5-73 16 St.
Brooklyn 15. N.Y.

[redacted] -

Guggenheim - 1071 5th Ave.

Matisse - 41 E 57
Rosenberg 20 E 79
H.V. Allison - 32 E 57
Kramshaar 32 E 57

color inks - surface + intaglio

Granite -

Graphic Chemical + Ink Co.
Villa Park. Illinois
P.O. Box no 27 -

714 N. Ardmore Ave -

Calif. Ink. Co. gelatin Rollers -

William Hart Co. Inc.
137 Green Street, N.Y. 12
Sp. 7 - 3668
rollers

D. Howell -
address of woollen mill
near Dublin N.H.

(woven) fine felts for printing)

Continental Felts Co. 22 W 15th St.
Wa. 9-5262
woven wool roller cloth -
24 or 30"

Millburn Mills - 40 Worth St. N.Y.
tarlatane for wiping.

The Cronite Co. 35 Park Place. N.Y.C. 7
main plant Hudson Blvd. at 88th Street
North Bergen, N.J.

Simes & Amend - 633 Greenwich - N.Y.
Watkins 4-7200
Gum damar - powdered -
mastic

Fezzandie & Sperrle. 205 Fulton St.
Cortland 7-1460

N.Y. Patterson Bros. hardware - 15 Park Row N.Y.C. Barkley 7-8320

Mayers - Union Square 14th street -

stencil papers.

Muller - ~~st~~

transfer wax
putz rouge-pommade
white Norton Stone

Sellers - 66 W Broadway
sand's pound - hard + liquid
Stick ? engravers wax
for stopping out -

J. Maigne Roller Co.
321 Pearl
WO - 2 - 1165

Behlen Bros. 10 - 12 Cristopher St. N.Y.
asphaltum in Benzine

Harold Pitman Co. N.Y. Chicago - Cleveland
asphaltum varnish

Records

Editions

Carmel Drug Store - order

Perchloride of Iron
acetic acid -
rectified kerosene (petroleum)
hydrometer (pisse-acide)
Thermometer for liquids
Large tall test tube for acid.

nitrous acid. ✓

nitric.

Cronite - order
407 East Pico Blvd., L.A.
felts 2"6 x 18½" ✓
burnis?

Weber - plate oil -
brown etching ink
paper -
rubbing rollers

Fischer - drypoint & etch -
brass -
rollers.

Rape of the West 18"X12"
Etching - Engraving - aquatint
3 successive aquatintings.
2 inks

DO
TOO

VII 1 marais Black too solid
VIII 2 marais
VIII 3 Kochi, tan,
VIII 4 Marais Black too solid
VIII 5 Kochi #1 S.F.A.
VIII 6 Kochi #1
VIII

VIII inked correctly with warm-
& with a little more pressure from
the inky hand - just enough
to secure fullness & development
without choking -
Sparing retroussage -
plate cool -
-tone on top bird -

True - 7/30 + 9/30 at $75.

Studio Art - Carmel. Fred Klapich

5/30 + 2 unnumbered prints
w/ studio

1954 - Ink in Wind + light
lift - sound aquatint
6/30 + 9/30 out - MAXWELL / Thru 11/30

1959 Starfish - white line aquatint
? 5/50 | 3/50 shown April 1963
4/50 at Studio Art $75. | Bought by Len + Mimi Klein

1959. Rumm (man in space)
aquatint - 75

1959 Tide Pool - color
1/75 Japanese vellum
aqua bitten textures.
Drypoint - engraving - S.G.E.

1960 Water Lattice red copper
Aqua Bitten textures -
printed intaglio black + 6 colors
printed surface 2 colors -
gouged whites 12" x 18"

1960 - March

Sea star -

Aqua - bitten textures
hard copper & forged whites

8 1/4 X 10 1/2"

printed surface 3 colors

1960 - March -

Drypoint - Red copper

Parvati' out 4/12

2/12

1960 - Another Universe
of Night + Day -
printed in various colors
aquatint + Drypoint
+ forged whites

3/12 at Studio Art 4/12

$30.

1966

Hawk -

Several unique versions

Red and Green version bought by Jean's aunt

Mrs. R. Bernays - The Sequoias
Portola Valley -

1974 now in Melden collection
at Irvine

Parvati

mt. 4/12

Puma - 1963
drypoint black -
1/12 . ~~$50.~~

1/6 Sea Anemones

1/50 red Bone - Bl. + white

3/50 red Bone magenta + black
plate up 2nd Time

— blotter plate up
paper down
rubber + blankets

Torso #1 large drypt
in Shogun limited
to 3 [redacted]
impressions.

1962

Torso #2 - large drypt -
drawn in reverse } plate
varnis paper } edition 5/(18) 1962

Cosmic Runner II State
1962
drypt. added to aquatint plate
Edition limited to 30

Kelp #1 6/12 III Phulan - Kelp #2 award.
10

$45 Kelp #1 3/10 at Klypich - Studio art

Ascent 1st state 1962?
drypt. + aqua -

1/30 - 3/30 - printed
out.

August 31 1974-

2nd State of Rocket
reprinted

3/30 ✓ 4/30 ✓

Ascent - Drypoint - aqua
tint on 3 levels
to 2nd State - "Rocket"

2/30 Sent to

Calif. Society of
Printmakers
Nov. 1970.

to Monterey Peninsula
Museum of Art permanent
collection

CRYSTAL FIRST STATE
MARCH 1965

Etching + aquatint
1/50 To Cal. Soc. Etchers
price $40.-- destroyed
1 artist's proof retained

1st state
Ascent dry point + aquatint
3/30 #2 sent to C.S.E.
price 125. ~~175~~ - 3 retained

on reverse of "Crystal" copper
a relief drawing of Sparrow Hawk
printed in several different
manners and colors May 1966

Ascent bitten out to 5 levels in
May 1966 - and reprinted.
used horizontally - edition of 30?

original dry pt of head of
Red tail, first etching ever
made by T.K. bitten out
redrawn and reprinted in
May 1966 - 1/20
edition of 20 -

Consciousness Molecule series

Ralph Atkinson
Big Sur Creek - Monterey Coast
"Abalone Shell"

Harry Dick + Helen Ross
Big Sur - "Fish"

Bruno Adriani Collection
"Fern" - Legion of Honor Museum
San Francisco

June Haas - "Butterfly"
Carmel Highlands.

Paco Ferro - Carmel
"Sacred Form"

Mrs. A. I. Melden - Irvine U.S.C. Ed
"Iris" - Newport Beach, Ca

1965 RELIEF PRINT #2
unique impression
to Congressional Library
Feb. 1966
$150 -

---

from Conscious Molecule Series
1963 #1 GALAXY
sold to Mrs. R. Bernays - $75
intaglio & relief print
to Congressional Library
Feb. 1966 - $115

~~both prints rejected~~

C.M.
sold to Maud Oakes
$125. Big Sur
"Sidereal"

C.M. Peggy Church, Santa Fé N.M.
"Mineral world"

C.M. R. Rodriguez
Monterey / Cal - Blue Shell

" " (at suggestion of Louisa Jenkins)

Chalice - Conscious Molecule

plate - in grey white and blue - unp. 1965

sent to fall exhibition at Vallyermo Ca, 1973 -

1963 James Dickie - etching
"The Meeting" 10/50 Oct. 1969.

1973 printed through 19/50
August 20

1969-1970

Variations on

Themes by E. Weston

grey - drypt + relief - 2 plates

Tantamount $75

1971- working on the

large drypt. Dead cormorant -

(Fallen Angel).

1971 Nature - drypt.

Verse by Jawlensky

double portrait of James Dickie

1969

Spider Series

1970- 2 more variations on E.W. Nemes.

1971 } edition of 4 prints of 6 on Arches double cream wove Henry Standing - also 2 sheave d'artiste before minor corrections -

---

2 prints from Henry (net S.G.S.) Fabriano white + Rives white - both rag wrjed - the latter deep tone - for all these prints viridian was Ground and added to the Black -

cut in '62

Growth - intaglio
✓ green version $75
sold to Mrs. Virginia Stone

✓ Baroque # 1 $85
✓ " # 2 $50 ✓

Light # 2 ink + lead $125.
Gift to Tantamount

✓ Variation on S.W. #2 - grey + white
1/2 $75

✓ Variation " yellow + black
épreuve d'artiste $150.

---

vertical rhythm (framed)
$150. relief + monoprint

Horizontal rhythm 45
Arbam (framed) 500

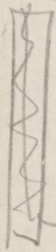
at the Taut amount

Rocket II state # 2/30

$150 (frame = $30)

Oct. 1971

to Museum (Monterey)



"growth" variation in green

$75

Henry Kersh, Dancer - standing

Epreuve d'artiste drypt. $75.

Ed. limited to 10

Light # 2 silk + lead

monotype - unique impr. $125.

convergence left - Howell paper

100

Gold Epistle - Howell paper

100

Variations on Phenomena E.W.

Grey 75 - yellow N.F.S.

~~Hellenic~~

Attic Heads — Monoprint $250.

Convergence Left
relief & mono 300

Open Ocean $400
~~Relief~~ Monoprint

Pressed Images 125
mono

Water Rhythm $350
mono

Assam - framed 500

small series in
different colors 1972

---

also comet - fire red on black

2/10 - ed.

1972

Reprinting of the "Sea Star" "

COLOR AQUATINT AND RELIEF

Brown Version =

intaglio Black - toward Grey leaving plenty of whites - deep yellow ink on raised white pore - Raw Umber surface - Seaweed ? in peacock blue

Brown Version

To museum $100. SEA-STAR - no. 1 - Feb. 22 73

* Rocket - H state $125. accepted

(The Net - $375 - ink & flo. $10) - no painting

Spider Eye: 2 plates

1/6 bought by June Haas
Carmel Highlands

2/6 printed August 22, 1974

August 22, 1974
reprintings of Growth -
7 prints - of which
Two are alike
(originally cut in 1962)
3 previous prints (smaller)
Aug. 23 + 4 one at Tantamount
2 prints on Howell rag handmade
paper - (linen)

Shell Spiral

1 artists' proof -

1 titled -
all prints on Howell rag

Itsy - 1/6 - '69

3/6 Black 8'74

2/6 Red - 8'74

State I 8/10/73

"At Bay" one print saved
Drypoint after Delacroix

state II 9/29/74

1 - 2 - 3/4 -

Sept. 1974 #1 Arches, #2 Rives
The Wrestlers - after Michelangelo -
#1, #2 artists proofs Black
1st State

2nd State - one print - Green base
Red over Green over black figures
2nd state? Bitten out some more print
Black, white + red - (no good)

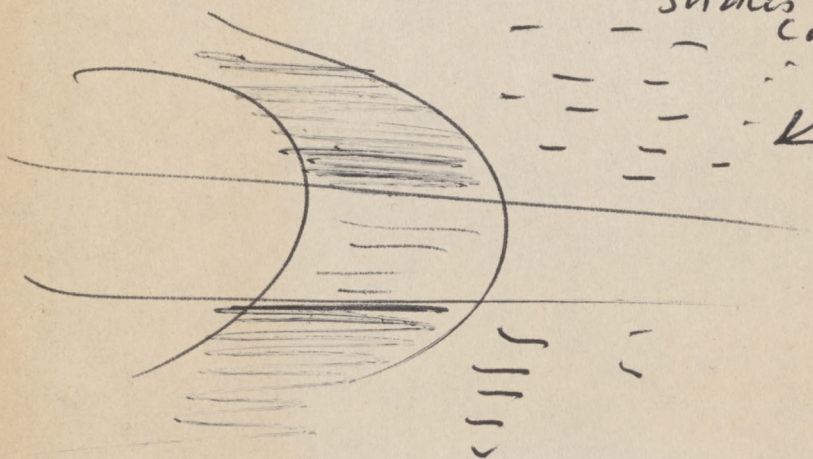
work in progress - (dry!) Victorine Cypress
Itsy - ◇ drypoint - red ink
2tsy? □ drypoint

showprints on basis of paper used
for original approach
including the collage of
printing papers on
Van Gelder Zonen -

example - Howell Linen with eng. + aqua-
Norwegian Royal with drypt.
Japanese with monoprint
English rag with relief etc.

lightening a tone of color when another lighter hand passes over it.
not exactly like weaving –

transparencies.



pattern can = texture

SILVER CITY WITH GOLD HILL IN DISTANCE
HISTORIC MINING TOWNS OF NEVADA

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